Determination of whether MCLs are relevant and appropriate to contaminated sediments and groundwater beneath the Willamette River at the Portland Harbor Site
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Background: The Portland Harbor site includes sediments and sources of contamination to the sediments in the lower Willamette River. The site is contaminated with a range of chemicals including PCBs, pesticides, PAHs, metals, cyanide and volatile and semi-volatile organic compounds. Under the terms of a memorandum of understanding between EPA and the State of Oregon, the Oregon Department of Environmental Quality (ODEQ) is responsible for managing upland source control through its environmental cleanup program while EPA is responsible for managing the in-water contamination under CERCLA. At this time, the RI has been completed. The preliminary risk evaluation has determined that fish consumption represents the greatest risk to human health at the site. Other exposure pathways that pose a risk to human health include direct contact with contaminated sediments. Preliminary estimates of the area of contaminated sediments that the FS will evaluate is approximately 1300 acres.

Issue: Contaminated groundwater from upland facilities is a source of contamination to the Willamette River. Groundwater may also mobilize contaminants associated with subsurface sediments and transfer them to surface sediments and surface water. To better understand this pathway, sediment porewater (groundwater) was collected off shore of nine upland facilities with contaminated groundwater. The results demonstrate that groundwater beneath the river exceeds MCLs for benzo(a)pyrene, arsenic, and several chlorinated and aromatic volatile organic compounds (e.g., TCE, PCE, benzene, chlorobenzene). ODEQ is responsible for controlling sources of groundwater contamination to the river. EPA expects upland source control to be implemented in a manner and time-frame that allows for sediment remedies to proceed. Upland sites without source control may be included in the site boundary. ODEQ is also overseeing RI/FSs at upland facilities aimed at upland exposures and risks However, ODEQ requires cleanup of groundwater to drinking water standards only if drinking water is a current or reasonably likely use of groundwater; at the Portland Harbor site, ODEQ has determined that drinking water is not a current or reasonably likely future use of groundwater. Drinking water is a protected beneficial use of the Willamette River under State of Oregon Water Quality requirements. However, surface water at the Portland Harbor site does not exceed MCLs.

MCLs are considered relevant and appropriate for surface water based on this beneficial use designation and because surface water ingestion exposure pathways were identified as complete in the human health risk assessment (incidental ingestion during recreational activities and ingestion by transients). However, because human consumption of groundwater beneath the river is not considered a complete exposure pathway for in-water receptors and because ODEQ is expected to control contaminated groundwater discharges, it is unclear whether MCLs are relevant and appropriate to groundwater discharging to or beneath the Willamette River.

Question: Based on a consideration of the factors outlined in Section 300.400(g)(2) of the NCP, are MCLs relevant and appropriate to groundwater beneath the Willamette River if upland groundwater discharges have been controlled sufficiently to protective levels consistent with the receptors and pathways evaluated in the Portland Harbor risk assessment? If MCLs are relevant and appropriate, must the Portland Harbor FS evaluate attainment of MCLs throughout the groundwater contamination plume and/or for all groundwater beneath the river? If MCLs are relevant and appropriate, what steps are necessary to invoke a technical impracticability waiver for groundwater contamination beneath the river that does not meet MCLs?